

SEQUENCE LISTING



<110 · Curtis, Rory A.J., Lora, Jose M. ${:}120 \cdot 46793, \; A \; Human \; Matrix \; Metalloprotease \; and \;$ Uses Therefore .:130 · MPI2001-014P1RNM <140 - 10/050,216 <141 - 2002 - 01 - 16 $+:150 \mapsto 60/252,252$ <151 - 2001-01-16 .:150 - 10<170 · FastSEQ for Windows Version 4.0 <:210:- 1 <211 + 2310
<212 + DNA</pre> <213 - Homo sapiens <231 - CDS <222 - (317) ... (1651) <4:00 - 1 geographica gogetoegge gggeotoego coccetoegoo egoottecot tootooctoo 60 cteggitecce ggggeeggeg gaccegeggg eaggeactge cegggetgga egacgtetgg $120\,$ conjectocog gogaagggea geggaggage ggcccagage gegeagetag ggcaetggeg 180 aaubbeeggg alagteeste teegtgeggg ggeggeglag ageagteeca teeceggggt $\frac{240}{400}$ 300 enaggaging gatgaction gootigetten etgogegeag tagetescop ageogggetg caceggagge ggegag atg gte geg ege gte gge ete etg etg ege gee etg Met Val Ala Arg Val Gly Leu Leu Arg Ala Leu 352 day oby challed tog god dad oby gad god day coo gog gag ogd gga Gln Leu Leu Leu Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly 20 ggo dag gag etg ege aag gag geg gag gea tto eta gag aag tad gga Gly Glu Leu Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly 448 496 tae ete aat gaa eag gte eee aaa get eee aee tee aet ega tte age Tyr Leu Asn Glu Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser gat gos atc aga gog tit dag tig git too dag dia oot git ago ggo Asp Ala Ile Arg Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly 544 65 gtg ttg gad ogd god add otg ogd dag atg act ogt odd ogd tgd ggg 592 Val Leu Asp Arg Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly gut aca gat acc aas agt tat gog god tgg got gag agg atc agt gas Val Thr Asp Thr Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp 54) ttg ttt got aga dad ogg add aaa atg agg ogt aag aaa ogd ttt god Leu Phe Ala Arg His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala 110 aag daa ggg ggd ged etg geg dad ged tto etg ded egd egd ggd gad Lys Gln Gly Gly Ala Leu Ala His Ala Phe Leu Pro Arg Arg Gly Glu 125 130 135 735 734 goy can the gae caa gat gay ego tyg too oty ago ego ego cyn gyg

150

Ala His Phe Asp Gln Asp Glu Arg Trp Ser Leu Ser Arg Arg Gly

ege aac etg tte gtg gtg etg geg ear gag ate ggt eac ac Arg Asn Leu Phe Val Val Leu Ala His Glu Ile Gly His Ti 160 165 1		
ete ave cae teg dee geg eeg ege geg ete atg gog ees te Leu Thr His Ser Pro Ala Pro Arg Ala Leu Met Ala Pro T 175 130 130		
agg ctg gge cgc gac geg ctg ctc agc tgg gac gac gtg c Arg Leu Gly Arg Asp Ala Leu Leu Ser Trp Asp Asp Val L 190 195 200		
cag ago otg tat ggg aag ood ota ggg ggd toa gtg god g Gln Ser Leu Tyr Gly Lys Pro Leu Gly Gly Ser Val Ala V 205 210 215		
eca gga aag etg tte aet gae ttt gag aee tgg gae tee t Pro Gly Lys Leu Phe Thr Asp Phe Glu Thr Trp Asp Ser T 225 230		
caa gga agg cgc cet gaa acg cag ggc cet aaa tae tgc c Gln Gly Arg Arg Pro Glu Thr Gln Gly Pro Lys Tyr Cys H 240 245 2		
tto gat god ato act gta gad agg daa dag daa dtg tad a Phe Asp Ala Ile Thr Val Asp Arg Gln Gln Gln Leu Tyr I 250 260 365		
ggg age cat the tgg gag gtg gea get gat gge aac gte t Gly Ser His Phe Trp Glu Val Ala Ala Asp Gly Asn Val S 270 275 280		
ogt oda otg dag gaa aga tgg gto ggg otg odd dod aad a Arg Pro Leu Gln Glu Arg Trp Val Gly Leu Pro Pro Asn I 283 290 235		
gog goa gtg toa ttg aat gat gga gat tto tao tto tto a Ala Ala Val Ser Leu Ash Asp Gly Asp Phe Tyr Phe Phe Ly 305		
ega tge tgg agg tte egg gge dec aag eea gtg tgg ggt e Arg Cys Trp Arg Phe Arg Gly Pro Lys Pro Val Trp Gly L 320 325 3		
etg tge egg gea ggg gge etg eed ege eat eet gae gee g Leu Cys Arg Ala Gly Gly Leu Pro Arg His Pro Asp Ala A 335 340 346		
tto dot dot dtg dge dge dte atd dte tte aag jgt ged d Phe Pro Pro Leu Arg Arg Leu Ile Leu Phe Lys Gly Ala A 350 350 360		
gtg etg god oga ggy gga etg baa gtg gag obd tad tad e Val Deu Ala Arg Gly Gly Leu Gln Val Glu Pro Tyr Tyr P 365 370 375	no oga agt — 1436 no Arg Ser 330	
otg dag gad tgg gga ggd atd det gag gag gtd agd gdd g Leu Gln Asp Trp Gly Gly Ile Pro Glu Glu Val Ser Gly A 335 390	od otg dog = 15)4 la Leu Pro 395	
agg occ gat ggo too ato ato too too oga gat gac ogo to Arg Pro Asp Gly Ser Ile Ile Phe Phe Arg Asp Asp Arg T 400 405		
cto gad dag god aaa oty dag god aco aco tog ggd dyd t Leu Asp Gln Ala Dys Leu Gln Ala Thr Thr Ser Gly Arg T 415 420 425		
gag obj dec togg aby ggd bgd bgg dat ged aad bog ggd a Glu Leu Pro Trp Met Gly Cys Trp His Ala Ash Ser Gly S 430 435 440		
tto sgaaggeads tooteacoto agamaetggt ggtgotetem gggem Phe 445	aaat: 1701	
atgiticocca occedygygo agaacodeto tiagaagost obyagitoc	t ctgcagaaga 1761	

ongggeagea aageeteeat etggaagtet gtetgeettt gtteettgaa gaatgeagea 1321 ttgtotttgt otgtococac cacatggagg tgggggtggg atbaatotta ggaaaagcaa 1391 asaagggtbe cagatecott ggesetitee teegaggast tetatestee esaggesttt 1941 gtttöbbogg chaaaggtad agttocttto aagaaggtaad agdadtggga becaagdagg 2001 gygatgaaaa actoagoaga gaaattogag accattttgo aagactgtgo oottotooto aggacecect ggeteagtte ttgaaaaaeg gtgteatatt tagteagagg eeccacecec 2121 ayyaagcatg gatggggatg aaggcacagg egtetecaae eteagaggee etttgtgggg 2181 traggaraca gagtgggagg gagactgatg caggretare agteretige tettigietg 2241 ggjctggaat aaagaggtgs ottcagstgg tgggscgaga aaaaaaaaaaa aaaaaaaaag 2301 ggeggeege <210 > 2 <211 > 445 .:212→ PRT :213 → Homo sapiens <400> 2 Met Val Ala Arg Val Gly Leu Leu Leu Arg Ala Leu Gln Leu Leu 1:) Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Leu 20 25 30 Arg Lys Glu Āla Glu Ala Phe Leu Glu Lys Tyr Gly Tyr Leu Asn Glu 35 40 45Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser Asp Ala Ile Arg 50 60 Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly Val Leu Asp Arg 55 70 75 80 Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly Val Thr Asp Thr 8.5 90 Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp Leu Phe Ala Arg His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Gly 115 120 Ala Leu Ala His Ala Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp 130 135 140 Gin Asp Glu Arg Trp Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe 145 150 155 160Val Val Leu Ala His Glu Ile Gly His Thr Leu Gly Leu Thr His Ser 165 170 175 165 170 Pro Ala Pro Arg Ala Leu Met Ala Pro Tyr Tyr Lys Arg Leu Gly Arg 180 135 Asp Ala Leu Leu Ser Trp Asp Asp Val Leu Ala Val Gln Ser Leu Tyr 195 200 205 Gly Lys Pro Leu Gly Gly Ser Val Ala Val Gln Leu Pro Gly Lys Leu 210 215 220 Phe Thr Asp Phe Glu Thr Trp Asp Ser Tyr Ser Pro Gln Gly Arg Arg 230 235 Pro Glu Thr Gln Gly Pro Lys Tyr Cys His Ser Ser Phe Asp Ala Ile 245 250 245 250 Thr Val Asp Arg Gln Gln Gln Leu Tyr Ile Phe Lys Gly Ser His Phe 265 260 Trp Glu Val Ala Ala Asp Gly Asn Val Ser Glu Pro Arg Pro Leu Gln 275 280 85Glu Arg Trp Val Gly Leu Pro Pro Asn Ile Glu Ala Ala Ala Val Ser 290 295 Leu Asn Asp Gly Asp Phe Tyr Phe Phe Lys Gly Gly Arg Cys Trp Arg 31.5 310 Phe Arg Gly Pro Lys Pro Val Trp Gly Leu Pro Gln Leu Cys Arg Ala 325 330 Gly Gly Leu Pro Arg His Pro Asp Ala Ala Leu Phe Phe Pro Pro Leu 340 345 Arg Arg Leu Ile Leu Phe Lys Gly Ala Arg Tyr Tyr Val Leu Ala Arg 360 365365 Gly Gly Leu Gln Val Glu Pro Tyr Tyr Pro Arg Ser Leu Gln Asp Trp 370 375 380 380 Gly Gly Ile Pro Glu Glu Val Ser Gly Ala Leu Pro Arg Pro Asp Gly 385 390 395 Ser Ile Ile Phe Phe Arg Asp Asp Arg Tyr Trp Arg Leu Asp Gln Ala 405 415 405 410 Lys Leu Gln Ala Thr Thr Ser Gly Arg Trp Ala Thr Glu Leu Pro Trp 420 425 Met Gly Cys Trp His Ala Asn Ser Gly Ser Ala Leu Phe 435 440440

2310

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ege Arj																144
cag Gln																192
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gcc . Ala '																233
aac a Asn																3 3 ຄົ
cac (His)																334
gee e Ala l																43.2
caa q Gln 2 145	gat Asp	gag Glu	cgc Arg	tgg Trp	tcc Ser 150	ctg Leu	agc Ser	ege Arg	ege Arg	ege Arg 155	Gl [.] G∃⊡	ogc Arg	aac Asn	ctg Leu	ttc Phe 160	430
gtg g Val V																5.33
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gac (Asp /																624
Gly I	aag Lys 210	ccc Pro	cta Leu	ggg Gly	ggc Gly	tca Ser 215	gtg Val	gcc Ala	gtc Val	cag Gln	otr Leu 220	cca Pro	gga Gly	aag Lys	ctj Leu	670
ttc a Phe 5 225																720
cct (Pro (763
act o																8.15
tgg g	gag	gtg	gca	gct	gat	ggc	aac	gtc	tca	gag	ccc	cgt	cca	ctg	cag	864

Trp (Glu	Val 275	Ala	Ala	Asp	Gly	Asn 280	Vаl	Ser	Glu	Pro	Arg 285	Pro	Leu	Gln	
gaa : Glu <i>i</i>	aga Arg 29)	tgg Trp	gtc Val	gly ggg	ctg Leu	ccc Pro 295	ccc Pro	aac Asn	att Ile	gag Glu	got Ala 300	gcg Ala	gca Ala	gtg Val	tca Ser	912
ttg / Leu / 305																960
tto: Phe 2																1008
GJA ← ddd +																1056
cgc (Arg /																1104
GJA (dad (1152
gga (Gly (385																1200
tad a Ser																1243
aaa d Lys l																1296
atg (Met (1335
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Gln :	Lys	Phe 35	Ph⊖	Gly	Leu	Pro	Val 40	Thr	Gly	Lys	L⊕1	Азр 45	Ser	Asn	Thr	
L•∋u (Glu 50	Val	Met.	Lys	Lys	Pro 55	Arg	Сув	Gly	Val	Pro 60	дзр	Val	Gly	Glu	
Phe A	Arg	Thr	Ph÷	Pro	Gly 70	Ser	Pro	Lys	Trp	Ser 75	Lys	Asn	Asn	Leu	ป้อน 30	
Thr '	Түг	Arg	Ile	Val 85	Asn	Ty'r	Thr	Pro	Asp 90	Leu	Pro	Arg	Glu	Asp 95	Val	
Asp A	Asp	Ala	I1⊕ 100		Arg	Ala	Phe	Gln 105		Trp	Ser	Asp	Val	Thr	Pro	
Leu '	Thr	Phe 115		Arg	Val	Ser	Asp 120		Glu	Ala	qsA	Ile 125		Ile	Ser	
Phe A	Ala 130		Gly	Glu	His	Gly 135		Phe	Туг	Pro	Phe 140		З1у	Lys	Gly	
Gly 1 145		Leu	Ala	His	Ala 150		Ala	Pro	Gly	Pro 155		Ile	Gly	Ile	Gly 160	
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+212 + PRT
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+223 → Consensus
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Lys Gly Asp Lys Tyr Trp Arg Phe Asp Pro Glu Thr Arg Gln Arg Val
            2.0
                                  2.5
Asp Pro Gly Tyr Pro Lys Leu Ile Ser Asp Leu Trp Pro Asp Gly Leu
                               4 )
<210 ≥ €
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Glu Glu Asp Leu Gln Phe Ala Glu Arg Tyr Leu Arg Ser Tyr Tyr His 35 - 40
Pro Thr Asn Leu Ala Gly Ile Leu Lys Glu Asn Ala Ala Ser Ser Met 50 60
Thr Glu Arg Leu Arg Glu Met Gln Ser Phe Phe Gly Leu Glu Val Thr
                     711
                                             75
Gly Lys Leu Asp Asp Ach Thr Leu Asp Val Met Lys Lys Pro Arg Cys
85 90 95
Gly Val Pro Asp Val Gly Glu Tyr Asn Val Phe Pro Arg Thr Leu Lys 100 - 105
Trp Ser Lys Met Ash Lo. Thr Tyr Arg Ile Val Ash Tyr Thr Pro Asp
115 125
Met Thr His Ser Glu Val Glu Lys Ala Phe Lys Lys Ala Phe Lys Val
130 140
Trp Ser Asp Val Thr Pro Leu Asn Phe Thr Arg Leu His Asp Gly Ile
145 150 150
Aia Asp Ile Met Ile Sor Phe Gly Ile Lys Glu His Gly Asp Phe Tyr
165 170
                165
Pro Phe Asp Gly Pro Ser Gly Leu Leu Ala His Ala Phe Pro Pro Gly 180 185 190
Pro Asn Tyr Gly Gly Asp Ala His Phe Asp Asp Asp Glu Thr Trp Thr 195-200-200
Ser Ser Ser Lys Gly Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe
210 215 200
Gly His Ser Leu Gly Leu Asp His Ser Lys Asp Pro Gly Ala Leu Met
223 230 235
Phe Pro Ile Tyr Thr Tyr Thr Gly Lys Sor His Phe Met Leu Pro Asp
245 250 255
Asp Asp Val Gln Gly Ile Gln Ser Leu Tyr Gly Pro Gly Asp Glu Asp
260 265 270
Pro Ash Pro Lys His Pro Lys Thr Pro Ash Lys Cys Ash Pro Ser Leu 275 280 280
Ser Leu Asp Ala Ile Thr Ser Leu Arg Gly Glu Thr Met Ile Phe Lys
290 295
Asp Arg Phe Phe Trp Arg Leu His Pro Gln Gln Val Asp Ala Glu Lou 108 316 315
Phe Leu Thr Lys Ser Phe Trp Pro Glu Leu Pro Abn Arg Ile Asp Ala 325 336 335
Ala Tyr Glu His Pro Sor His App Leu Île Phe Ile Phe Arg Gly Arg 340 345
Lys Phe Trp Ala Leu Ash Gly Tyr Asp Ile Leu Glu Gly Tyr Pro Lys 355 360
Lys fle Ser Glu Leu Gly Leu Pro Lys Glu Val Lys Lys fle Ser Ala 370 380
Ala Val His Phe Glu Asp Thr Gly Lys Thr Leu Leu Phe Ser Gly Ash
                  390
                                             395
Gln Val Trp Arg Tyr Asp Asp Thr Asn His Ile Met Asp Lys Asp Tyr
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Pro Arg Leu Ile Glu Glu Asp Phe Pro Gly Ile Gly Asp Lys Val Asp 425 420 Ala Val Tyr Glu Lys Asn Gly Tyr Ile Tyr Phe Phe Asn Gly Pro Ile 435 440 445 Gln Phe Glu Tyr Ser Ile Trp Ser Asn Arg Ile Val Arg Val Met Pro 455 450 Ala Asn Ser Ile Leu Trp Cys 455 170 <210 - 7 <211 × 10 +212 · PRT <213 - Artificial Sequence</p> +: 2.7 O + <:213 / consensus</pre> <:0.1.* VARIANT
<0.028 (1)...(1)
<0.028 Xaa = G, S, T, A, L, I, V, or N.</pre> <321 < VARIANT</pre> +200 (2)...(2) -313 Xaa at position 2 = A, E, Q, D, N, L, G, K, S, Y, R, T, P, I, M, F, Y, C, W, or H. <221 VARIANT <202 (3)...(3) <323 * Maa at position 3 = A, E, Q, D. N, L, G, K, S, V, R, T, P, I,
 M, F, Y, C, W, or H.</pre> -:201 > VARIANT <0000> (6) ... (6) $3223 \times \text{Maa}$ at position 6 = L, I, V, M. Y, or W. THAT TARY TARY <0000 (7)...(7) ± 223 . Maa at position $7 \approx A$, Q, N, L, G, S, V, T, I, M, F, Y, C, or W. HEET VARIANT ·MAR (9)...(9) $\sim 223 \times \text{Maa}$ at position 9 = A, E, Q, D, N, L, G, K, S, Y, R, T, P, I, M, F, Y, C, W, or H. <221 < VARIANT
<222 + (10)...(10)</pre> $\pm 223 + \text{Maa}$ at position 10 = L, I, V, M, F, Y, W, G, S, P, or Q. -1400 - 7 Maa Xaa Xaa His Glu Xaa Xaa His Xaa Kaa <210 · 8 <210 + 2527
<210 + DNA</pre> <013 * Homo sapiens</pre> +0.001 + CDS<2222 (300)...(1859) geographic egreecates gostgootti estimates tecciogia congagnes 60 geographic garages typecognic typ deageggagg ageggeseag agegegeage tagggeactg gegasseess gggseagtee 180 etabhaqtga gygggaggag aagaqaagta asatoocagg gytcaaggaa gaggatgaat 240 geogratiggt tractgogog bagtagette organgeggg ofgeworgyk ggolgogkg atg gte geg ege gte gge etc ofg ege ged etg bag ofg bla ofg Met Val Ala Arg Val Bly Leu Leu Leu Arg Ala Leu Bln Leu Leu Leu 299 tgg ggd dad otg gad gdo dag odd ggg ggd ggd ggd gag otg Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Leu 395

- 7 -

20 25 30

									,				,	0		
Arg	c aag g Lys	g gag s Glu 33	ı Ala	g gag a Glu	gca Ala	ttc Phe	cta Leu 40	ıGlu	aag Lys	g tac Tyr	gga Gly	tac Tyr 45	Lei	c aat 1 Asr	gaa n Glu	443
caç Glr	g gto n Val 50	Pro	aaa Lys	a gct s Ala	ccc Pro	acc Thr	Ser	act Thr	. cga Arg	tto Phe	age Ser	Asp	gco Ala	ato a Ile	aga e Arg	491
geg Ala 65	a Phe	cag Gln	tgg Tr	g gtg Val	tcc Ser 70	GIn	cta Leu	cet Pro	gtc Val	agc Ser 75	· Gly	gtg Val	tto Lei	g gac 1 Asp	cgc Arg 80	539
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cac Hıs	cgg Arg	acc Thr 115	aaa Lys	atg Met	agg Arg	cgt Arg	aag Lys 120	L)'s	cgc Arg	ttt Phe	gca Ala	aag Lys 125	caa Gln	ggt Gly	aac Asn	683
aaa Lys	tgg Trp 130	tac Tyr	aag Lys	cag Gln	cac His	ctc Leu 135	tcc Ser	tac Tyr	cgc Arg	ctg Leu	gtg Val 140	aac Asn	tgg Trp	cct Pro	gag Glu	731
cat His 145	Leu	ccg Pro	gag Glu	ccg Fro	gca Ala 150	gtt Val	cgg Arg	ggc Gly	gcc Ala	gtg Val 155	cgc Arg	gcc Ala	gcc Ala	ttc Phe	cag Gln 160	779
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Gly	ctg Leu	ggc Gly 195	aat Asn	gcc Ala	ttt Phe	gat Asp	ggc Gly 200	cca Pro	ggg Gly	ggc Gly	gcc Ala	ctg Leu 205	gcg Ala	cac His	gcc Ala	923
Pne	210	Pro	Arg	cgc Arg	Gly	Glu 215	Ala	His	Phe	Asp	Gln 220	Asp	Glu	Arg	Trp	971
225	Leu	Ser	Arg	cgc Arg	Arg 230	Gly	Arg	Asn	Leu	Phe 235	Val	Val	Leu	Ala	His 240	1019
GIU	11e	GIÀ	His	acg Thr 245	L⊕u	Gly	Leu	Thr	His 250	Ser	Pro	Ala	Pro	Arg 255	Ala	1067
ctc Leu	atg Met	gcg Ala	ccc Pro 260	tac Tyr	tac Tyr	aag Lys	agg Arg	ctg Leu 265	Gl ^{y.} ggc	cgc Arg	gac Asp	gcj Ala	ctg Leu 270	ctc Leu	agc Ser	1115
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cct. Pro	aaa Lys	tac Tyr	tgc Cys	cac His 325	tct Ser:	tcc Ser	tta Phe	Asr,	gcc Ala 330	atc Ile	act Thr	gta Val	gac Asp	agg Arg 335	caa Gln	1307

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gat gge aac gto toa gag eeo egt eea etg eag gaa aga tgg gto ggg = 14 Asp Gly Asn Val Ser Glu Pro Arg Pro Leu Gln Glu Arg Trp Val Gly 355 360 365	4+3
otg occ occ aas att gag got gog goa gtg toa ttg aat gat gga gat — 1. Leu Pro Pro Ash Ile Glu Ala Ala Ala Val Ser Leu Ash Asp Gly Asp 375 — 380	451
the tac the the ammaggg ggt ega tge tgg agg the egg gge dec mag. Phe Tyr Phe Phe Lys Gly Gly Arg Cys Trp Arg Phe Arg Gly Pri Lys 335. 390. 395.	499
eca gtg tgg ggt etc eca cag etg tgc egg gca ggg ggc etg ecc ege = 19 Pro Val Trp Gly Leu Pro Gln Leu Cys Arg Ala Gly Gly Leu Pro Arg 405 410 415	547
cat cot gac god god oto tto tto cot cot otg ego ego etc atc otc. If His Pro Asp Ala Ala Leu Phe Phe Pro Pro Leu Arg Arg Leu Ile Leu 420	595
tto aag ggt god ogd tad tad gtg otg god oga ggg ggA otg daa gtg — 10 Phe Lys Gly Ala Arg Tyr Tyr Val Lei Ala Arg Gly Gly Leu Gln Val 435 — 440 — 445	543
gag obe tae tae obe oga agt otg bag gab tgg gga ggb atd obt gag = 10 Glu Pro Tyr Tyr Pro Arg Ser Leu Gln Asp Trp Gly Gly Ile Pro Glu 450 455	691
gag gtd agd ggd gdd dtg ddg ddd gat ggd tdd ath ath ttd ttd 11 Glu Val Ser Gly Ala Beu Pro Arg Pro Asp Gly Ser fle Ile Phe Phe 465 470 475 480	7 49
ega gat gad ogo tao tgg ogo oto gad dag god aaa otg dag god aco — 1° Arg Asp Asp Arg Tyr Trp Arg Leu Asp Gln Ala Lys Leu Gln Ala Thr 485 — 490 — 498	737
ace tog gge ege tag ged ace gag etg ode tag atg ggd tag tag cat 1: Thr Ser Gly Arg Trp Ala Thr Glu Leu Pro Trp Met Gly Cys Trp His 500 510	335
god aad tog ggg agd god otg tto tgaaggdadd tootdaddto agaaactggt 19 Ala Asn Ser Gly Ser Ala Leu Phe 515	339
Attendenta gganaagean aanagggtoe engateeett ggeestitee teegaggaet 2 tetateetee eenggeett gtettttegg etnaaggton agtteettte aagaggtane 2 agenteggg teenaaggtop eentette aagaggtane 2 agenteggg teenaaggagg gggatgana eetenggagg gnaattogg entettte 2 hagtengagg eeenaeee agganeeet ggetogtet tignaahaeg gtgtestati 2 angennagg eeenaeee agganageat gnagggat angennagg eyteteenae 2 etenaangge etttgtgggg tenagganae gnagggagg gnaactant engeenae 2 agteretgge titttgtgggg tenaggnaat anagnggtge ettenagteg tyggeegnaa 2	009 069 139 139 249 309 439
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65 7 0 75 30	

Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly Val Thr Asp Thr 35 90 Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp Leu Phe Ala Arg 100 105 His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Asn 120 125 Lys Trp Tyr Lys Gln His Leu Ser Tyr Arg Leu Val Asn Trp Pro Glu 135 140 His Leu Pro Glu Pro Ala Val Arg Gly Ala Val Arg Ala Ala Phe Gln 145 155 150 Leu Trp Ser Acn Val Ser Ala Leu Glu Phe Trp Glu Ala Pro Ala Thr 165 170 175 Gly Pro Ala Asp Ile Arg Leu Thr Phe Phe Gln Gly Asp His Asn Asp 150 185 190 Gly Leu Gly Asn Ala Phe Asp Gly Pro Gly Gly Ala Leu Ala His Ala Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp Gln Asp Glu Arg Trp 210 215 220 Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe Val Val Leu Ala His 225 230 235 Glu Ile Gly His Thr Leu Gly Leu Thr His Ser Pro Ala Pro Arg Ala 245 250 255 Leu Met Ala Pro Tyr Tyr Lys Arg Leu Gly Arg Asp Ala Leu Leu Ser 260 255 270Trp Asp Asp Val Leu Ala Val Gln Ser Leu Tyr Gly Lys Pro Leu Gly 285 Gly Ser Val Ala Val Gln Leu Pro Gly Lys Leu Phe Thr Asp Phe Glu 295 300 Thr Trp Asp Ser Tyr Ser Pro Gln Gly Arg Arg Pro Glu Thr Gln Gly 305 310 315 Pro Lys Tyr Cys His Ser Ser Phe Asp Ala Ile Thr Val Asp Arg Gln 325 Gln Gln Leu Tyr Ile Phe Lys Gly Ser His Phe Trp Glu Val Ala Ala 340 345 350Asp Gly Asn Val Ser Glu Pro Arg Pro Leu Gln Glu Arg Trp Val Gly 360 365 Leu Pro Pro Asn Ile Glu Ala Ala Val Ser Leu Asn Asp Gly Asp 370 375 380 Tyr Phe Phe Lys Gly Gly Arg Cys Trp Arg Phe Arg Gly Pro Lys 395 Fro Val Trp Gly Leu Pro Gln Leu Cys Arg Ala Gly Gly Leu Pro Arg 405 410 His Pro Asp Ala Ala Leu Phe Phe Pro Pro Leu Ary Arg Leu Ile Leu 420 425 420 42:5 Fhe Lys Gly Ala Arg Tyr Tyr Val Leu Ala Arg Gly Gly Leu Gln Val 435 440 445 Glu Pro Tyr Tyr Pro Arg Ser Leu Gln Asp Trp Gly Gly Ile Pro Glu 450 455 Glu Val Ser Gly Ala Leu Fro Arg Pro Asp Gly Ser Ile Ile Phe Phe 465 470 475 480Ary Asp Asp Arg Tyr Trp Arg Leu Asp Gln Ala Lys Leu Gln Ala Thr 485 490 495 Thr Ser Gly Arg Trp Ala Thr Glu Leu Pro Trp Met Gly Cys Trp His 5(n) 505 510 Ala Asn Ser Gly Ser Ala Leu Phe 515 <210> 10 <211> 1563 <.!12 - DNA <2:3> Homo sapiens <220> <201: CDS <202> (1)...(1563) <400> 10 atg gtc gcg cgc gtc ggc ctc ctg ctg cgc gcc ctg cag ctg cta ctg Met Val Ala Arg Val Gly Leu Leu Leu Arg Ala Leu Gln Leu Leu Leu tig ggo cac cti gae gee eag eee gel gag ego gga gge eag gag eti 96 Trp Gly His Lei Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Lei cyc aay gag gcg gag gca tto ota gag aag tac gga tac oto aat gaa 144

Ar∙j	Lys	Glu 35	Ala	Glu	Ala	Phe	Leu 40	-31u	Lys	Туг	Gly	Tyr 45	Leu	Asn	-31u	
	gtc Val 50															192
	ttt Phe															24)
	acc Thr															233
	agt Ser															335
	cgg Arg															384
	tyg Trp 130															432
	ctg Leu															480
	tgg Trp															528
	odo Pro															576
	ctg Leu															624
	ctg Leu 210															670
	otg Leu															720
gag Glu	atc Ile	ggt Gly	cac His	acg Thr 245	ctt Leu	GJA GGG	ctc Leu	acc Thr	cac His 250	tcg Ser	dad Pro	gcg Ala	cog Pro	age Arg 255	geg Ala	763
	atg Met															83.6
tga Trp	gac Asp	gar Asp 270	gtlg Väl	ctig Leu	gor Ala	gtg Val	cag Gln 230	agc Ser	atg Leu	tat Tyr	gga Gly	aag Lys 285	ddd Pro	ota Leu	gly gga	864
	tca Ser 290															912
acc Tha 505	tgg Trp	gad Asp	too Ser	tac Tyr	agc Ser 310	ada Pro	caa Gln	gga Gly	agg Arg	ege Arg 315	oat Pro	gaa Glu	acg Thr	caj Gln	ggd Gly 320	960
	aaa Lys															1(0)8
	caa Gln															1056

			340					345					350			
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ctg Leu	ecc Pro 370	ccc Pro	aac Asn	att Ile	gag Glu	get Ala 375	gcg Ala	gca Ala	gtg Val	tca Ser	ttg Leu 380	aat Asn	gat Asp	gga Gly	gat Asp	1152
ttc Phe 385	tac Tyr	ttc Phe	ttc Phe	aaa Lys	ggg Gly 390	ggt Gly	cga Arg	tgc Cys	tgg Trp	agg Arg 395	ttc Phe	Arg Cgŋ	ggc Gly	ccc Pro	aag Lys 400	1200
cca Pro	gtg Val	tgg Trp	ggt Gly	ctc Leu 405	cca Pro	cag Gln	ctg Leu	tgc Cys	cgg Arg 410	gca Ala	Gly ggg	gg:	ctg Leu	ccc Pro 415	cgc Arg	1243
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gag Glu	ccc Pro 450	tac Tyr	tac Tyr	ccc Pro	cga Arg	agt Ser 455	ctg Leu	cag Gln	gac Asp	tgg Trp	gga Gly 450	ggc Gly	atc Ile	cct Pro	gag Glu	1392
gag Glu 465	gtc Val	agc Ser	ggc Gly	gcc Ala	ctg Leu 470	ccg Pro	agg Arg	ccc Pro	gat Asp	ggc Gly 475	tcc Ser	atc Ile	atc Ile	ttc Phe	ttc Phe 480	1440
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acc Thr	tcg Ser	ggc Gly	cgc Arg 500	tgg Trp	gcc Ala	acc Thr	gag Glu	ctg Leu 505	ccc Pro	tgg Trp	atg Met	Gl	tgc Cys 510	tgg Trp	cat His	1536
gcc Ala	aac Asn	tcg Ser 515	ggg Gly	agc Ser	gcc Ala	ctg Leu	ttc Phe 520	tga *								1563